



THE SPECIFICATION:

Please amend the paragraph at page 1, line 21, to page 3, line 11, to read as follows:

The present invention provides an arrangement of an internal combustion engine poppet valve and a hydraulic actuator therefor comprising:

an actuator housing;
spring means for biassing the poppet valve into engagement with a valve seat therefor;
a first piston of a first cross-sectional area slidable in a first chamber formed in the actuator housing, the first piston having a passage therethrough for the flow of hydraulic fluid; and

a second piston of a second cross-sectional area smaller than the first cross-sectional area slidable in a second chamber formed in the actuator housing, the second chamber opening on to the first chamber; wherein:

the first chamber is connectable to a pressurised pressurized hydraulic fluid supply line and to a hydraulic fluid return line;

the second piston has an upper surface engageable by a lower surface of the first piston; and

the first piston is configured without a passage which is both aligned with the second piston and which has a portion of constant cross-sectional area greater than the said second cross-sectional area; whereby:

in order to open the poppet valve: the first chamber is connected to the pressurised pressurized hydraulic fluid supply line and then supplied pressurised pressurized hydraulic fluid acts initially on the first piston to give rise to a first magnitude force which is initially relayed via the second piston to the engine valve to open the valve; initially the first piston, the second piston and the engine valve all move together under the action of the first magnitude force until the first piston reaches an end stop; and thereafter the supplied pressurised pressurized hydraulic fluid flows from the first chamber through the passage in the first piston to act on the second piston and to thereby give rise to a second smaller magnitude force under the action of which the second piston and the valve move together until the valve is fully open;

in order to close the previously opened poppet valve: the first chamber is connected to the hydraulic fluid return line and then the biassing force applied by the spring means to the valve forces the valve to move back towards its valve seat; initially the valve and the second piston move together with the second piston expelling fluid from the second chamber via the passage in the first piston to the hydraulic fluid return line until the second piston engages the first piston; and thereafter the first piston, the second piston and the valve all move together under the biassing force applied by the spring means with the first piston expelling hydraulic fluid from the first chamber to the hydraulic fluid return line until the poppet valve engages the valve seat therefor; and

the movement of the second piston relative to the first piston is limited by abutment of the upper surface of the second piston with the lower surface of the first piston.

Please amend the paragraph at page 4, line 36, to page 5, line 8, to read as follows:

If the poppet valve 101 is an exhaust valve in a large capacity diesel engine then the pressure in the cylinder 102 can be as high as 70 bar when the actuator 100 first opens the valve 101. In order to apply a force on the valve 101 sufficient to open the valve the piston 1 is provided in the actuator. When pressurised pressurized fluid is introduced into the chamber 112 defined between the piston 1 and the outer actuator housing 13 then the fluid acts to slide the piston 1 downwardly in the inner housing 16. The force applied to the valve 101 is the product of pressure of the pressurised pressurized fluid and the area of the piston 1.

Please amend the paragraph at page 5, lines 10 to 20, to read as follows:

The piston 1 is slid down in the bore in the inner housing 16 until it abuts the end of the bore in the inner housing 16 in which it slides. Thereafter, the pressurised pressurized fluid acts to move the piston 15 relative to the first piston 1, the piston 15 sliding in the inner housing 16, with hydraulic fluid flowing through the aperture 111 in piston 1. Therefore the first part of the opening motion of the valve 101 is occasioned by

motion of the pistons 1 and 15 together and thereafter the opening motion of the valve 101 is occasioned by the motion of the smaller piston 15 only.